

MECHANICAL MEANS PEST REPELLANT AND PLANT SHIELD

FIELD OF THE INVENTION

The present invention relates generally to gardening. More specifically, the present invention pertains to devices and apparatus which are capable of separating plants from crawling insects and burrowing animals. The present invention is particularly, but not exclusively, useful as an above-ground shield for warding off crawling bugs and snails and as an underground shield for fending off moles and gophers, is adaptable for use with potted plants or in garden areas.

10 BACKGROUND OF THE INVENTION

Caring for a plant or garden requires that pests such as insects, snails, moles and gophers be denied access to the plant or garden.

Various forms of plant protection have been implemented in the U.S. and other countries with varying degrees of success. When assessing forms of plant protection for its suitability for garden purposes, several additional

considerations must be taken. The first is human safety. Insect and snail repellants in the market contain chemicals to harmful humans.

Other forms of plant protection can be time consuming, cumbersome, and expensive. Many pest repellents require reapplying the mixture to the
5 plant after a certain amount of time passes or after a few short rain storms.

Storage of plant protection can be cumbersome. The user must store unused portions of insect powder and the bucket or storage container in what is, for some gardeners, sparse and valuable garage or garden shed shelf space.

10 Also, stored powder in a garden shed or garage can present a poisoning danger to small children and family pets.

Other forms of plant protection offered on the market such as copper guard railings are not considered aesthetically adequate to all users. In general, it is desirous for a bug guard to be inconspicuous.

OBJECTS OF THE INVENTION

It is an object of this invention is to provide an insect, crustacean, mole and gopher shield which is appropriate for plants and protective of the environment. Another object of this invention is to provide a system which
5 is aesthetically pleasing.

It is a further object of this invention to provide a system that may be configured for protecting potted plants or various sizes of gardens.

It is a further object of this invention to provide a system which is easy to implement and comparatively cost effective.

10 It is a further object of this invention to provide a pest repellant system that has low toxicity to humans and small impact on the environment.

SUMMARY OF THE INVENTION

The plant shield device comprises a shield element having a front
15 surface and a back surface. The back surface faces a plant. The shield element is flexible and may be formed into smooth curvilinear transitions or

a variety of shapes to shape to the circumference of a garden or perimeter of a plant pot.

The plant shield also comprises an above-ground section and an underground section. The underground section has a bottom edge with a
5 plurality of ridges or grooves that are for engaging the shield into the ground.

A method and device in accordance with the present invention shall include an array of several shield sections. Each section is substantially rectangular having an above-ground section that is approximately 2 cm to
10 15 cm in height and 2 mm to 2 cm thick. The material which comprises the shield will also clearly effect the operation of the shield. For simplicity, the surface of the shield is defined as one that bugs will not crawl up and over. When the shield is placed around a plant, it is able to effectively fend off crawling bugs, crustaceans, moles, gophers and other pests.

BRIEF DESCRIPTION OF THE DRAWINGS

The features of this invention will be best understood from the accompanying drawings, taken in conjunction with the accompanying description.

5 FIG. 1 is a front view of the shield

FIG. 2 is a top view of one section of the shield

FIG. 3 illustrates the shield positioned on a potted plant;

FIG. 4 illustrates a second embodiment of the shield attached to a pot
with a brush or spray

10 FIG. 5 is a close-up of the shield embedded in the ground

FIG. 6 illustrates how the shield material is applied to a pot

FIG. 7 shows the shield in a roll from which sections can be detached

FIG. 8 shows the shield arranged in a box

FIG. 9 Shows two sections of the shield with fold/perforations

15 FIG. 10 is a top view of the shield arranged in a box shape

FIG. 11 is a cross-section of the shield inserted into the ground

FIG's 12,14,15, and 16 are alternate embodiments of the fold
between sections

DESCRIPTION OF THE PREFERRED EMBODIMENT

The present invention comprising an insect and pest shield system for
5 gardens¹⁰⁰, is seen in Fig. 1 as a flat piece of material ¹¹⁰ with a front
surface¹⁰¹ with folds/perforations ^{102,103} and possessing a sticky abrasive
substance¹⁰⁴ on the surface¹⁰¹. The other side of the material ¹²⁰ is flat and
smooth. The flat piece of material ¹¹⁰ is made from a flexible substance
that is semi-rigid and can be molded or cut into shape.

10 The sticky abrasive substance¹⁰⁴ is a combination of sand or grit plus
an adhesive that can be brushed or sprayed onto the front surface ¹⁰¹ of the
invention¹⁰⁰, or the invention ¹⁰⁰ can be purchased with the sticky abrasive
substance¹⁰⁴ already applied.

The invention¹⁰⁰ can be flexible enough to be wrapped around a
15 potted plant¹³⁰ as shown in Fig 3. or the sides of a pot ¹⁴⁰ as in Fig. 4.

The mechanical action of the sticky abrasive substance¹⁰⁴ is shown in Fig. 5, where a snail¹⁴⁵ is prevented from crawling up the side of the invention¹⁰⁰ by the presence of the substance¹⁰⁴ above it. Snails will not cross rough surfaces that tear their “foot”. Many insects are also discouraged from crossing rough surfaces because it hurts their undersides. Note that the invention is also sunk into the ground.

Fig. 6 illustrates the application of the sticky abrasive substance to the side of a pot¹⁴⁰. A spray mechanism¹⁴⁷ or brush¹⁴⁸ can be used to apply the substance¹⁰⁴ to a flat or smoothly curved surface.

Figs 7, 8, and 9 show how the invention can be distributed as a roll¹⁵⁵ from which sections¹⁵¹ of the necessary length can be torn. They also show how the invention can be folded along the fold/perforations¹⁰². The bottom edge of the invention¹⁵⁶, possessing none of the sticky abrasive substance¹⁰⁴ is ridged as shown to make it easy to insert into the ground around plants.

Fig. 10 is a top view of how a length of the invention ¹⁰⁰ can be folded along the fold/perforations ¹⁰² to form a rectangular barrier. Fig. 11 is a cross section of the invention ¹⁰⁰ inserted into the ground.

Fig.'s 12, 14, 15, and 16 show alternative embodiments of the invention with alternate means of joining the sections, including hinges and snap-together connectors.

While the foregoing describes a preferred embodiment, variation on this design and equivalent designs may be resorted to in the scope and spirit of the claimed invention.